

Vendor	Wagner Power Systems	Stewart and Stevenson	Cummins Rocky Mountain LLC
Contact	Bob Keller	George Diaz	Willy Colby
COOLING SYSTEM			
Air flow (max at rated speed for radiator arrangement)	40,153 CFM	38,223 CFM	34,000 SCFM
Air flow restriction (system)	0.48" H ₂ O	-	25" H ₂ O
Engine coolant capacity	14.5 gal	29.1 gal	
Radiator coolant capacity	35.7 gal	56.7 gal	53.2 gal
Coolant to aftercooler temp max	120° F	130° F	122° F
INLET AIR			
Combustion air inlet flow rate	2,171.9 CFM	2,225 CFM	2,472 SCFM
HEAT REJECTION			
Heat rejection to coolant (total)	18,767 Btu / min	18,767 Btu / min	34,468 Btu / min (total)
Heat rejection to exhaust (total)	43,619 Btu / min	Not Available	
Heat rejection to aftercooler	8,929 Btu / min	12,227 Btu / min	
Heat rejection to atmosphere from generator	2,092.8 Btu / min	2,453 Btu / min	
Heat rejection to atmosphere from engine	9,327 Btu / min	4,663 Btu / min	
LUBE SYSTEM			
Sump refill with filter	20.1 gal		
ALTERNATOR			
Motor starting capability @ 30% voltage dip	1,913 kVA	2,120 kVA	2,655 kVA
Frame	596	Brushless, Single Bearing	Brushless, Single Bearing
Temperature Rise	105°C, Class H	130°C (Standby)	105°C, Class H
DAY TANK			
Fuel Capacity (gallons)	600 gal	550 gal	632 gal
EMISSIONS			
NOx g / kWh	7.05 [5.26 (g / hp-hr)]	4.173	5.33 [3.97 (g / hp-hr)]
CO g / kWh	0.31 [0.23 (g / hp-hr)]	0.81	0.62 [0.46 (g / hp-hr)]
HC g / kWh	0.04 [0.03 (g / hp-hr)]	-	0.12 [0.09 (g / hp-hr)]
PM g / kWh	0.032 [0.024 (g / hp-hr)]	0.09	0.16 [0.12 (g / hp-hr)]
EPA Tier II Certified	Yes	Yes	Yes
DIMENSIONS AND WEIGHTS (place weather-protective enclosure dimensions in parenthesis)			
Height	11'-6" (including fuel tank base)	86.5" (134")	93" (156")
Width	9'	63" (88")	79" (100")
Length	22'	170" (190")	170.7" (228")
Total weight filled	30,000 lbs	23,500 lbs	15,363 lbs
TIME GENERATOR CAN RUN AT FULL LOAD			
	10.5 hrs	10.1 hrs (19 hrs w/ \$2300 adder)	12 hrs

**7031-01
Idaho Cobalt-Concentrator**

SEI Job# 7031-01
E-101 Diesel Generator Set Bid Comparison

7031-01-Q-E-101 DIESEL GENERATOR SET PACKAGE								
Description	Bidder A	Bidder B	Bidder C	Bidder D	Bidder E	Bidder F	Bidder G	Bidder H
Vendor	Stewart & Stevenson	Wagner Equipment Co.	Cummins Rocky Mountain	Electric Power Equipment Co.	Power Services Inc.			
Contact	James Kim	Bob Keller	Willy Cobby	Tim Boyle	Jake Makimins			
Address	5840 Dahlia St. Commerce City, CO 80022	18091 E. 22nd Ave. Aurora, CO 80011	8213 E. 96th Ave. Henderson, CO 80640	5151 E. 56th Ave. Commerce City, CO 80022	4570 Ivy St. Unit B-300 Denver, CO 80216			
WEB								
Phone No.	720-322-7502	303-739-3056	303-927-2273	303-288-0751	303-394-4440			
Fax No.	720-322-7527	303-739-3190		303-288-5003	303-394-4122			
E-Mail	j.kim@s3s3.com	b.keller@wagnerequipment.com	wflem.l.cobby@cummins.com	tboyle@epesonline.com	jmakimins@powerserviceinc.com			
Date:								
Status				No Bid	No Bid			
Equipment								
1900-GE-901 Standby Generator	\$125,100.00	\$223,200.00	\$148,024.00					
Access								
85 dbA Package Enclosure w/add'l upgrades		\$62,000.00						
75 dbA @ 50' Sound Attenuated Enclosure			\$13,800.00					
Maintenance and Operation Training			Included					
Eng Doc's and Operating Manuals	\$1,200.00	Included	Included					
Recommended Spares								
Total Equipment Cost w/Access	\$126,300.00	\$285,200.00	\$161,824.00					
Drawings & Delivery								
Field Service Rates	Start-up est 40hr x \$150/hr = \$6000 + mileage	Start-up and commissioning are included	Start-up and commissioning are included					
Taxes	Not Included	Not Included	Not Included					
Freight	\$4,500.00	Included	Est \$4,500.00					
Delivery Time	Ex-Works Factory	FOB JobSite	FOB JobSite					
	18-20 weeks ARO	36 wks ARO	22-23 wks ARO					
Payment Terms	Progress Payments Due Net 30	95% Due Net 30 Days After Delivery 5% Due Upon Completion of Start-up	Not Stated					
Currency	USD	USD	USD					
Price Validity	30 days (04/18/08)	60 days (05/19/08)	60 Days (05/19/08)					
Duties	Not Included	Not Included	Not Included					
Taxes	Not Included	Not Included	Not Included					
Liability	None	None	Not Stated					
Cancellation	Orders for goods or services may not be cancelled by buyer after acceptance by seller.	Not Stated	Not Stated					
Warranty	24 mos / 3000 hour basic standby limited warranty	24 mos from start-up 30 mos from shipment	24 mos base warranty 12 mos limited warranty Extended warranty options are available					
Warranty Transfer	Non-Transferable	Non-Transferable	Not Stated					
Total Price Equipment	\$126,300.00	\$223,200.00	\$148,024.00					
Freight	\$4,500.00	Included	\$4,500.00					
Total Price Quoted	\$130,800.00	\$223,200.00	\$152,524.00					
VENDOR RECOMMENDATION:	Stewart & Stevenson is the recommended vendor							
BUDGET:	\$197,450.00							

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Commerce City Co
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Proposal
For
Idaho Cobalt Concentrator 750

March 20, 2008

Michael L. Watson
Samuel Engineering
8450 East Crescent Parkway, Suite 200 Greenwood Village CO 80111
303-714-4840 (Phone)
303-714-4800 (Fax)
mwatson@samuelengineering.com

Stewart & Stevenson submits the following proposal for the project: Idaho Cobalt Concentrator 750 , Proposal # : D080320

MTU DETROIT DIESEL POWER GENERATION MODEL: (Qty - 1) - 750RXC6DT2
(File #: 165 / Catalog #: 70021215)

GENERATOR: 750 kW, 937.5 kVA

*** will derate to 734 Kw at site ***

VOLTAGE: 277/480 ACV 3-Phase (R)

ENGINE: Detroit Diesel 12V-2000-1118HP, 60 Hz Diesel, 1800 RPM

Standard Features Included:

Steel Sub Base, Battery Cables, Battery Box, Flex Fuel Connector, Oil Drain Extension, Lube Oil and Anti-freeze

Selected Model Features Included:

Permanent Magnetic Generator
Isochronous Governor + / - .25%
2 (Two) Year / 3000 Hour Basic Standby Limited Warranty

CONTROL PANEL: DGC-2020 Control Panel (Fully Enhanced)

The fully enhanced Digital Genset Controller (DGC-2020) utilizes microprocessor based technology to provide a versatile system for genset control, protection, monitoring and event logging. The DGC-2020 fully enhanced expanded model with standard LCD heater includes touch screen password protected programming capabilities and a standard USB communications port for re-programming and simple loading of software upgrades. This version is equipped with generator metering, engine monitoring, genset control, engine

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protection, generator protection (27, 59, 81O, 81U), BESTCOMSPlus PC software, automatic transfer switch control, suitable for use on rental gensets with Hi/Lo line sensing or Single or three phase sensing override, SAE J1939 Engine ECU communications, multilingual capability, remote communications to the RDP-110 Remote Annunciator, 16 programmable contact inputs, 15 contact outputs (3- 30Adc and 12 programmable 2 Adc), UL recognized, CSA certified, CE approved, HALT (Highly Accelerated Life Tests) tested, IP 54 Front Panel rating with integrated gasket, NFPA110 Level Compatible. The DGC-2020 fully enhanced model also includes: enhanced generator protection (47, 51, 32R, 40); Modbus RS-485 communications port; internal modem with remote dial-out and dial-in capability.

Included Accessories

Analog Meters and a 4 position combination selection switch
Emergency Stop Button

ENCLOSURE: Weather Proof

Weather Proof Enclosure includes bolt together sheet metal enclosure constructed with 14-gauge material, lockable hinged doors, keyed alike, a fixed storm proof air intake louver and expanded metal air discharge, muffler support brackets and exhaust piping allowing the muffler to be mounted on top of the roof; including rain cap.

Included Accessories:

AC or DC Lighting *Need to decide AC or DC*

COOLING SYSTEM: Unit Mounted Radiator

CIRCUIT BREAKER: 1200 AMP 277/480 Three Phase - Mounted and Wired in a NEMA 1 Enclosure (Qty: 1)

Included Accessories:

Shunt Trip
Auxillary Contact

BATTERY: Lead Acid Battery 1150 CCA @ 0 F

Included Accessories:

Unit Mounted Steel Rack (Per Battery)

BLOCK HEATER: Standard @ 20 F 9000 Watts

Included Accessories:

Engine Block Heater Isolation Valve - 1" (2 per heater)
Heater wired to a Terminal

VIBRATION ISOLATION: Spring Vibration Mounts

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BATTERY CHARGER: NRG 24-20-RCLS (24 Volt, 20 Amp)

Included Accessories:

NRG 24-20 Mounted-Wired AC & DC

MUFFLER: Critical, Enclosed 2/8 "

Included Accessories:

Rain Cap - 8 "

Rain Cap - 8 "

DAY TANK: Custom Day Tank

SKID TANK: 550 US Gallons (Double Wall UL) (48" x 72")

Skid Tanks include: tank, 2" male fill and T vent, 1" manual shutoff, direct reading fuel gauge, pipe drain plug. Double Wall Skid Tank also includes a single pop foot valve on supply..

Included Accessories:

4" Emergency Vent

MISCELLANEOUS:

Warranty - See Warranty in Selected Model Features

Paint - Ansi Grey

Testing - Standard Commercial Test

Manual - One Instruction Manual

Total Price ExWorks Mankato, MN

\$ 125,100.00

****Start Up is not included****

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Exceptions / Clarifications

- 1) Proposed unit is equipped with Single Bearing Alternator.
- 2) Start Up and future service will be provided by local DDC contractor
Reasonable start up estimation would be 40 hr x \$150.00/hr, and additional mileage charge.

Your local DDC distributor :

\$ 6000

Interstate PowerSystems
5561 Expressway
P.O. Box 16082
Missoula, Montana 59808
Phone (406) 728-7600
Fax (406) 721-6624
Toll-Free (800) 735-6336

Local Rep Close

Delivery

18 - 20 weeks ARO.

Terms & Conditions

Net 30 days with credit approval
Price does not include taxes, jobsite permits
Standard S&S terms and conditions will apply
Subject to progress payments
This quote is valid for 30days from date of quote

Thank you for your continued interest in our services and the products that we represent. Please do not hesitate to call for or with additional information.

Sincerely
Stewart & Stevenson

Greg Diaz 303-358-4301
James Kim 720-322-7502
Power Generation Group

Stewart & Stevenson

5840 Dahlia St.

Commerce City Co

303/287-7441

720/322/7527

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GENERAL TERMS & CONDITIONS OF SALE

1. **DEFINITIONS:** As used in these General Terms and Conditions of Sale, the term "Goods" shall mean the machinery, equipment, products and other tangible property from time to time sold or offered for sale by Seller; the term "Services" shall mean the labor from time to time provided by Seller; the term "Seller" shall mean the entity selling or offering such Goods or Services; and the term "Buyer" shall mean the person to whom such Goods or Services is sold or offered.
2. **OTHER TERMS:** These General Terms and Conditions of Sale shall contain all of the terms applicable to any sale of or offer to sell Goods or Services. Seller specifically objects to any additional or different terms contained in any document used by Buyer. Any acceptance of Goods or Services by Buyer or any payment by Buyer of any part of the purchase price shall be deemed to be a waiver of any additional or different terms contained in Buyer's documents and an acceptance of all of the General Terms and Conditions of Sale, notwithstanding the acknowledgement by Seller of Buyer's purchase order or other document provided by Buyer. No order for Goods or Services shall be binding on Seller until it is acknowledged in writing by Seller.
3. **SUPERVISION:** All Services performed by Seller at a location owned or controlled by Buyer shall be performed by Seller's personnel under the supervision and control of Buyer.
4. **ACCESS, PERMITS AND UTILITIES:** Seller's employees shall have free and unobstructed access to the site at which Services are to be performed. Buyer shall furnish safe and proper equipment, parts, tools and working conditions, safe storage for Seller's property, and all necessary lifting equipment, steam, electricity, gas, oil, water and other utilities necessary to perform the Services. Buyer shall obtain all licenses, registrations, and permits necessary for Seller to perform the Services.
5. **PRICE:** Unless otherwise stated, all prices are in U.S. Dollars. Prices relating to Goods are ex factory, place of manufacture. Labor rates shall be subject to change without notice and shall apply from the time of dispatch until return or dispatch to another job. No amount is included in any price for sales, use, privilege, excise or other taxes imposed on or measured by the gross receipts from the sale of the Goods or Services. Buyer shall promptly pay any such charge directly to the governmental authority assessing them or reimburse on demand any such charges paid by Seller.
6. **PAYMENTS:** All payments shall be in U.S. Dollars, without offset, backcharge, retention or withholding of any kind. All invoices shall be payable within thirty (30) days. Any amounts not paid when due will be subject to interest at the rate of 1 1/4% per month or the highest nonusurious rate permitted by applicable law, whichever is less. At the request of Seller, payments will be made through a confirmed irrevocable letter of credit in form and on banks acceptable to Seller.
7. **DELIVERY:** Delivery to the carrier, including carriers owned or controlled by Seller, or notification that Goods are ready for shipment shall constitute delivery to the Buyer for all purposes.
8. **SHIPMENT:** Prices include the cost of packing and crating required for normal domestic transportation. Freight charges included in any price are subject to adjustment for actual cost incurred by Seller. In the event that any Goods will be shipped out of the continental limits of the United States of America, all fees and expenses relating to export documentation, export packing, marking or importation into the country of destination shall be the responsibility of the Buyer.
9. **ACCEPTANCE:** All Goods shall be finally inspected and accepted within thirty (30) days after delivery. All Services shall be inspected and accepted within thirty days after they are performed. Failure of Buyer to provide Seller with an itemized list of defects within such thirty (30) days or to permit Seller a reasonable opportunity to correct any listed defects shall be deemed acceptance of the Goods or Services. In the event of multiple shipments or extended Services, each individual shipment shall be separately accepted and Services shall be periodically inspected and accepted. Buyer expressly waives any right to reject Goods or Services that substantially conform to the specifications relating thereto and any right to revoke acceptance after such thirty (30) day period.
10. **DELAYS:** Seller shall have no liability for any failure to deliver the Goods or perform Services to Buyer if such failure arises from causes beyond the reasonable control of Seller, including but not limited to, delays of suppliers or carriers, government actions, shortages of materials, labor difficulties, fires, floods, acts of God and the effects of civil disobedience.
11. **CHANGES:** Seller reserves the right to change the details of any Goods provided that such change shall not impair the performance or critical dimensions of such Goods.
12. **ADDITIONAL COSTS:** In addition to the purchase price, Buyer shall pay to Seller any costs incurred as a result of (a) changes in the Goods or Services or delays in delivery requested by Buyer; (b) delays in delivery arising from Buyer's failure to provide information, drawings or materials; or (c) changes in the laws, codes, rules or regulations applicable to the Goods or Services after the date of quotation by Seller.
13. **WARRANTY:** To the extent that Goods are warranted by their original manufacturers, and to the extent that such warranties are assignable to Buyer, Seller assigns to Buyer any rights and remedies it has relating to such Goods. Seller further agrees to perform any obligations of the original manufacturer under the manufacturer's warranty to the extent that such manufacturer authorizes Seller to perform such warranty obligations. **SELLER WARRANTS GOODS MANUFACTURED AND SERVICES PERFORMED BY IT PURSUANT TO THE WARRANTY POLICY STATEMENTS ISSUED FROM TIME TO TIME BY SELLER. EXCEPT AS SET FORTH IN THE APPLICABLE WARRANTY POLICY STATEMENT, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO GOODS OR SERVICES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**
14. **CANCELLATION:** Orders for Goods or Services may not be cancelled by Buyer after acceptance by Seller. Seller shall be entitled to request reasonable assurances that Buyer will accept and pay for any Goods or Services, including but not limited to requiring payments on account or in advance, if there are reasons to believe that Buyer will not accept and pay for Goods or Services when delivered. Until such assurances are received, Seller shall be entitled to stop work on the Goods or Services, cancel any agreement to sell the Goods or Services, sue to recover the purchase price or any expenses incurred to the date of cancellation, resell the Goods or Services to a third party, or exercise any other remedy available at law or in equity for breach of contract.

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15. **INTERPRETATION:** Any sale or agreement to sell Goods or Services shall be interpreted according to the laws of the state in which the particular branch office of Seller offering such Goods or Services is located. Any legal action regarding these General Terms and Conditions of Sale or the obligation of either Seller or Buyer shall be brought in courts sitting in the county in which the particular branch office of Seller offering such Goods or Services is located.
16. **LIMITATION OF LIABILITY:** Neither Seller nor Buyer shall have any liability to the other for any incidental or consequential damages arising from the sale of Goods or Services, the use, operation or consumption of the Goods, or the failure of either party to fully perform any agreement to sell Goods or Services. **SELLER SHALL HAVE NO LIABILITY FOR ANY LOSS, DAMAGE OR COST ARISING FROM THE FAILURE TO DISCOVER OR REPAIR LATENT DEFECTS OR DESIGN DEFECTS IN ANY GOODS OR SERVICES. BUYER SPECIFICALLY WAIVES, TO THE MAXIMUM EXTENT PERMITTED BY LAW, ANY CLAIM FOR INCIDENTAL, RESERVOIR, SPECIAL, INDIRECT, CONSEQUENTIAL AND EXEMPLARY DAMAGES, INCLUDING BUT NOT LIMITED TO MULTIPLE DAMAGES UNDER ANY DECEPTIVE TRADE PRACTICE OR CONSUMER PROTECTION LAWS.**
17. **WAIVER:** The waiver by either Seller or Buyer of any breach under these General Terms and Conditions of Sale shall not be deemed to be a waiver of any subsequent breach of a like or different nature. The failure to enforce any provision of the General Terms and Conditions of Sale shall not be deemed a waiver of such provision.
18. **ARBITRATION:** Any dispute arising from or relating to the sale of Goods or Services, including the interpretation of these General Terms and Conditions of Sale, shall be resolved by binding arbitration according to the Stewart & Stevenson Arbitration Program.
19. **INDEMNITY (INCLUDING FOR NEGLIGENCE):** BUYER HEREBY ASSUMES AND AGREES TO INDEMNIFY, DEFEND, PROTECT, SAVE, KEEP, AND HOLD HARMLESS SELLER, ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, AND INVITEES FROM AND AGAINST ANY AND ALL LOSSES, DAMAGES, INJURIES, CLAIMS, CAUSES OF ACTION, LIABILITIES, DEMANDS AND EXPENSES (INCLUDING ATTORNEY FEES AND OTHER LEGAL EXPENSES) OF WHATSOEVER KIND AND NATURE, FOR INJURY TO, OR ILLNESS OR DEATH OF ANY PERSON AND FOR ALL DAMAGE TO, LOSS OR DESTRUCTION OF PROPERTY (COLLECTIVELY "LOSSES"), RELATING TO, CONNECTED WITH IN ANYWAY, ARISING OUT OF, OR ON ACCOUNT OF THE GOODS OR SERVICES PURCHASED HEREUNDER, INCLUDING, WITHOUT LIMITATION, ANY SUCH LOSSES CAUSED OR OCCASIONED BY ANY NEGLIGENT ACT OR OMISSION OF SELLER, ITS OFFICERS, AGENTS, EMPLOYEES, SUBCONTRACTORS, INVITEES OR LICENSEES. The foregoing indemnity is a material part of this transaction, supported by and in consideration of a reduction in the purchase price and is intended to apply notwithstanding the joint or concurrent negligence of Seller.
20. **RISK OF LOSS:** Seller shall bear the risk of loss of the Goods until the Goods are delivered to the carrier, including carriers owned or controlled by Seller or notification to Buyer that the Seller is ready for shipments whichever occurs first. Thereafter, Buyer shall bear the entire risk of loss of the Goods.
21. **ENTIRE AGREEMENT:** These Terms and Conditions of Sale constitute the entire agreement of the parties and supersede all discussions, arrangements, negotiations, representations and warranties, if any, relating to the Goods or Services covered hereby.



FORMATION

REQUEST FOR QUOTATION

Idaho Cobalt Project - Concentrator
Formation Capital Corporation, U.S.

PAGE 1

PRISM-02/19/2008-15:30:47

ISSUE DATE: February 19, 2008

BID DUE DATE: March 20, 2008

COMPLETE AND RETURN 1 OF ALL "REQUEST FOR QUOTATION" FORMS TO:

Samuel Engineering Inc.
8450 East Crescent Parkway, Suite 200
Greenwood Village, CO 80111-2816, USA
Attention: Michael L. Watson, MBA -- Procurement Manager
Phone: (303) 714-4840
Fax: (303) 714-4800
E-Mail: m.watson@samuelengineering.com

Formation Capital Corporation, U.S. reserves the right without liability on its part to reject any or all quotations resulting from this request, or to accept other than the lowest priced quotation. Any quotation may be rejected if it is conditional or incomplete.

ATTACHMENTS LISTED IN ORDER OF PRECEDENCE

00200 Mechanical Standards
Instructions to Bidders-Electrical
16100 ELECTRICAL STANDARDS
17098 Instrumentation Standards
00100 Site Conditions
VDDR
7031-01 Sample Attachments

**BIDDER INFORMATION AND SIGNATURE
(TO BE FILLED IN BY EACH BIDDER)**

Signature and Title:

Greg Diaz Power Generation Sales

Name of Company that will Invoice:

Stewart & Stevenson

Street Address:

5840 Dahlia St

ZIP/Postal Code of the Street Address:

80022

Post Office Box Number:

PO Box 220

ZIP/Postal Code of the Post Office Box:

80037

City:

Commerce City

State/Province:

CO

Country:

USA

Telephone Number:

303 287 7441

Fax Number:

720 322 7527

Name of Person to Contact Regarding this Quotation:

Greg Diaz

Quotation Number:

0080320

Date of Quotation:

3-20-08

U.S. Federal Tax Identification Number:

20-4064950



FORMATION

ISSUE DATE: 02/19/2008

REQUEST FOR QUOTATION

Idaho Cobalt Project - Concentrator
Formation Capital Corporation, U.S.

PAGE 2.1

BID DUE DATE: 03/20/2008

REQUEST FOR QUOTATION 1900-GE-901 Diesel Generator Set								
ITEM	TAG NUMBER	QUANTITY	UNIT	DESCRIPTION	SHIP DATE	CTRL. ACCOUNT	UNIT PRICE	TOTAL PRICE
01	1900-GE-901	1	EA	Diesel Generator Set Equipment Tag ID: 1900-GE-901 Control Account ID:				125,100
				TOTAL PRICE (TO BE COMPLETED BY BIDDER)				\$ 125,100

ATTACHMENT B - TECHNICAL DATA SHEET

(Vendor to copy as necessary to supply the requested information for all transformers)

GENERAL

Manufacturer

Detroit Diesel MTC

Model No

750 RXC6DT2

Type

Diesel Engine Generator

Equipment number

will be assigned at production

RATINGS

Name plate rating, kW

750 kW

Frequency

60 Hz

Voltage

277/480 V

GENSET PACKAGE PERFORMANCE

Power rating at 0.8 power factor

750 kW

Power rating with fan

750 kW

FUEL CONSUMPTION

100% load with fan

52.4 gal/hr

75% load with fan

41.0

50% load with fan

27.7

EXHAUST SYSTEM

Exhaust stack gas temperature

1,040 F

Exhaust gas flow rate

5,297 CFM

Exhaust flange size (inner diameter)

8 inch

Exhaust system backpressure (max allowable)

34.1 inch H₂O

COOLING SYSTEM

Air flow (max at rated speed for radiator arrangement)

38,223 CFM

Air flow restriction (system)

-

Engine coolant capacity

29.1 gal

Radiator coolant capacity

56.7 gal

Coolant to aftercooler temp max

130°F

FORMATION CAPITAL CORPORATION

IDAHO COBALT PROJECT - CONCENTRATOR
PROJECT NO. 7031-01

PERFORMANCE SPECIFICATION 16230

STANDBY ELECTRICAL POWER SYSTEM
REV. B DATE: JANUARY 03, 2008, PAGE 13

INLET AIR

Combustion air inlet flow rate

2,225 CFM

HEAT REJECTION

Heat rejection to coolant (total)

18,767 BTUM

Heat rejection to exhaust (total)

Not Available

Heat rejection to aftercooler

12,227 BTUMHeat rejection to atmosphere from
generator2,453 BTU/M

Heat rejection to atmosphere from engine

4,663 BTU/M

LUBE SYSTEM

Sump refill with filter

ALTERNATOR

Motor starting capability @ 30% voltage
dip2,120 KVA

Frame

Brushless, Single Bearing

Temperature Rise

130° (Stand By)

DAY TANK

Fuel Capacity (gallons)

550 gal ✓

OK

EMISSIONS

NO_x g/kWh4.173

CO g/kWh

0.81

HC g/kWh

-

PM g/kWh

0.09DIMENSIONS AND WEIGHTS (place weather-
protective enclosure dimensions in parenthesis)

Height

86.5" (134")¹²

Width

63" (88")⁸

Depth

170" (190")¹⁶

Oil Capacity

20.3 gal?

Total weight filled

Appr. 23,500 lb.

END SECTION 16230

<u>Description</u>	<u>Cost</u>	<u>Delivery Time</u>
ALL ADDITIONAL COST ITEMS:		
Packaging and Freight Estimated	\$ <u>4,500</u>	<i>(packaging is include</i>
Spare Parts for Start Up	\$ <u>by local dealer</u>	<i>in unit price)</i>
Installation Supervision	\$ <u>by local dealer</u>	
Start Up Supervision and Testing	\$ <u>by local dealer</u>	
Engineering Documents and Operating Manuals	\$ <u>1,200.</u>	
<u>TOTAL</u>	\$ _____	

OTHER REQUIRED INFORMATION

TO BE STATED IN QUOTE

Drawings for approval
Terms and Price Policy/Schedule of
Values
Spare Parts Recommended for 1
year
Validity of 60 Days

4.0 BIDDING SCHEDULE

All bids are to be received by the close of the business day as stated on the cover sheet of this RFQ also please note (an e-mail or fax quote is acceptable in lieu of hard copies however, signed and dated hardcopies must follow the fax or email copy by no more than 72 hours);

Samuel Engineering, Inc.

8450 East Crescent Parkway, Suite 200

Greenwood Village, CO 80111-2816, USA

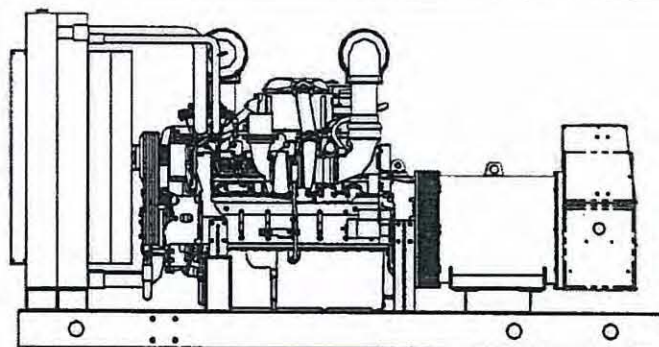
Attention: Michael L. Watson, MBA—Procurement Manager

Phone: (303) 714-4840; e-mail: mwatson@samuelengineering.com

Fax: 303-714-4800

**DETROIT DIESEL**

750 kW 60 Hz Standby
680 kW 60 Hz Prime
208 - 4160V



- EPA Tier 2 Certified
- Generator Set Tested to ISO 8528-5 for Transient Response
- UL2200, CSA Listing Offered
- Accepts Rated Load in One Step Per NFPA 110, Level 1
- All gen-sets are prototype and factory tested
- MTU DD is a single source supplier
- Global Product Support
- 2 Year Standard Warranty
- Complete Range of Accessories
- Custom Design for any Application

12V-2000 G84 Diesel Engine

- 23.9 Liter Displacement
- Common Rail Injection
- 4-Cycle

Permanent Magnet Generator (PMG)

- Brushless, Rotating Field
- 300% Short Circuit Capability
- 2/3 Pitch Windings

Digital Control Panel

- UL 508 Listed, CSA Certified, NFPA 110
- Complete System Metering
- LCD Display

Cooling System

- Integral Set-mounted
- Engine Driven Fan

GEN-SET RATINGS

Standby - 130° Rise

Voltage (L-L)	Phase	PF	Hz	kW	kVA	AMPS	skVA @ 30% voltage dip	Generator Model*	Connection
208v	3	0.8	60	750	937.5	2602	2600	574RSL4037	12 LEAD LOW WYE
240v	3	0.8	60	750	937.5	2255	2600	574RSL4037	12 LEAD HI DELTA
480v	3	0.8	60	750	937.5	1128	2150	573RSL4035	12 LEAD HI WYE
600v	3	0.8	60	750	937.5	902	3100	574RSS4278	4 LEAD WYE
4160v	3	0.8	60	750	937.5	130	1850	574FSM4358	6 LEAD WYE

Prime - 105° Rise

Voltage (L-L)	Phase	PF	Hz	kW	kVA	AMPS	skVA @ 30% voltage dip	Generator Model*	Connection
208v	3	0.8	60	680	850	2359	2600	574RSL4037	12 LEAD LOW WYE
240v	3	0.8	60	680	850	2045	2600	574RSL4037	12 LEAD HI DELTA
480v	3	0.8	60	680	850	1022	2150	573RSL4035	12 LEAD HI WYE
600v	3	0.8	60	680	850	818	3100	574RSS4278	4 LEAD WYE
4160v	3	0.8	60	680	850	118	1850	574FSM4358	6 LEAD WYE

The Generator Model Number identified in the table is for standard C Series Configuration. Consult the factory for alternate configuration

**STANDARD EQUIPMENT****ENGINE**

- Air Cleaners
- Oil Pump
- Full Flow Oil Filter
- Jacket Water Pump
- Inter Cooler Water Pump
- Thermostats
- Exhaust Manifold – dry
- Blower Fan & Fan Drive
- Radiator - Unit Mounted
- Electric Starting Motor - 24V
- Governor – Electric Isochronous
- Base - Structural Steel
- SAE Flywheel & Bell Housing
- Charging Alternator - 24V
- Battery Box & Cables
- Flexible Fuel Connectors
- Flexible Exhaust Connection
- EPA Certified Engine

DIGITAL CONTROL PANEL

- Digital Metering
- Engine Parameters
- Generator Protection Functions
- Engine Protection
- SAE J1939 Engine ECU Communications
- Windows-based Software
- Multilingual Capability
- Remote Communications to our RDP-110 Remote Annunciator
- 16 Programmable Contact Inputs
- 7 contact outputs
- UL Recognized, CSA certified, CE approved
- Event Recording
- IP 54 Front Panel Rating with Integrated Gasket
- NFPA110 Level Compatible

GENERATOR

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
- Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
- Self Ventilated and Drip-proof
- Superior Voltage Waveform
- Digital, Solid State, Volts-per-hertz Regulator
- No Load to Full Load Regulation
- Brushless Alternator with Brushless Pilot Exciter
- 4 pole, Rotating Field
- 130°C Standby Temperature Rise
- 1 Bearing, Sealed
- Flexible Coupling
- Full Amortisseur Windings
- 125% Rotor Balancing
- 3-phase Voltage Sensing
- $\pm .25\%$ Voltage Regulation
- 100% of Rated Load - One Step
- 3% Maximum Harmonic Content



750 kW Diesel Gen-Set

APPLICATION DATA

Engine

Manufacturer:	MTU Detroit Diesel	Rated RPM:.....	1800
Model:	12V-2000 G84	Engine Governor:.....	ADEC
Type:.....	4-Cycle	Max Power: Standby: bhp (kWm)	1,119 (835)
Arrangement:	12-V	Prime: bhp (kWm)	1,020 (761)
Displacement: in. ³ (lit)	1,458 (23.9)	Speed Regulation:	±.25%
Bore: in. (cm)	5.1 (13.0)	Frequency:	60 Hz
Stroke: in. (cm)	5.9 (15.0)	Air Cleaner:.....	Dry
Compression Ratio:.....	16.0:1		

Liquid Capacity (Lubrication)

Total oil system: gal (lit)	20.3 (77)
Engine Jacket water capacity: gal (lit)	29.1 (110)
After Cooler water capacity: gal (lit)	5.3 (20)
System Coolant capacity: gal (lit)	91.1 (345)

Electrical

Electric volts DC:	24
Cold cranking Amps under 0°F (-17.8°C):.....	1750

Fuel System

Fuel Supply Connection Size:.....	3/4" NPT
Fuel Return Connection Size:.....	1/4" NPT
Maximum Fuel Lift: ft (m)	10 (3)
Recommended Fuel:	Diesel #2
Total Fuel Flow: gal/hr (lit/hr)	127 (480)

Fuel Consumption

	Standby	Prime
100% Power Rating: gal/hr (lit/hr).....	52.4 (198)	48.9 (182)
75% Power Rating: gal/hr (lit/hr).....	41.0 (155)	37.7 (143)
50% Power Rating: gal/hr (lit/hr).....	27.7 (105)	25.4 (98)

Cooling - Radiator System

	Standby	Prime
Ambient Capacity of Radiator: °F (°C)	104 (40)	104 (40)
Maximum Allowable Static Pressure on Radiator Exhaust: in. H ₂ O (kPa).....	0.5 (0.12)	0.5 (0.12)
Water Pump Capacity: gal/min (lit/min)	220 (833)	220 (833)
After Cooler Pump Capacity: gal/min (lit/min)	68 (258)	68 (258)
Heat Rejection to Coolant: BTUM (kW)	18,767 (330)	17,060 (300)
Heat Rejection to After Cooler: BTUM (kW)	12,227 (215)	11,098 (195)
Heat Radiated to Ambient: BTUM (kW)	4,663 (82)	4,265 (75)

Air Requirements

	Standby	Prime
Aspirating: CFM (m ³ /min)	2,225 (63)	2,119 (60)
Air Flow Required for Radiator Cooled Unit: CFM (m ³ /min)	38,223 (1,082)	38,223 (1,082)
Air Flow Required for Heat Exchanger/ Remote Radiator based on 25°F Rise: CFM (m ³ /min)	10,362 (294)	9,478 (268)

Exhaust System

	Standby	Prime
Gas Temp.(Stack) °F (°C)	1,040 (560)	1,022 (550)
Gas Volume at Stack Temp: CFM (m ³ /min)	5,297 (150)	5,085 (144)
Maximum Allowable Back Pressure: in. H ₂ O (kPa)	34.1 (8.5)	34.1 (8.5)

**DETROIT DIESEL****750 kW Diesel Gen-Set****EMISSIONS DATA**

<u>NO_x + NMHC</u>	<u>CO</u>	<u>PM</u>
4.03.....	0.81.....	0.09.....

All units are in g/hp-hr and are EPA D2 cycle values.

Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

SOUND DATA

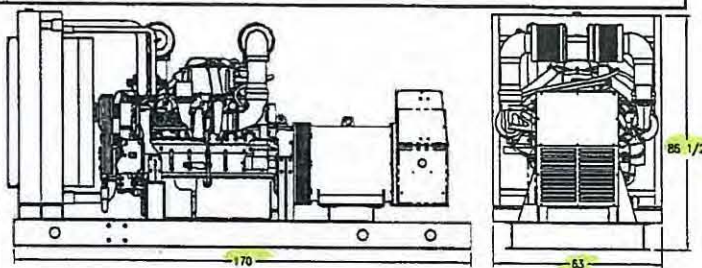
	<u>Standby Full Load</u>	<u>Standby No Load</u>	<u>Prime Full Load</u>	<u>Prime No Load</u>
23 ft (7m) OPU w/ critical grade muffler: (dBA)	100.....	93.....	98.5.....	93.....
23 ft (7m) Sound Attenuated Enclosure: (dBA)	92.....	85.....	90.5.....	85.....

RATING DEFINITIONS and CONDITIONS

- Ambient capability factor at 300m (984 ft). Consult your local MTU DD Power Generation Distributor for other altitudes.
- Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.
- Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory.
- Deration Factors:
 - Altitude: No power decrease with increased elevation up to 5,906 ft. (1,800m)* at 77°F (25°C).
 - Temperature: Derate 2.5% per 9°F (5°C) over 122°F (50°C) at 328 ft (100m).
 - *Contact factory for deration above 5,906 ft. (1,800m).

Weights & Dimensions

Length: in. (cm).....	170 (432)
Width: in. (cm).....	63 (160)
Height: in. (cm).....	86.5 (220)
Weight (dry): lb. (kg).....	12,108 (5,492)

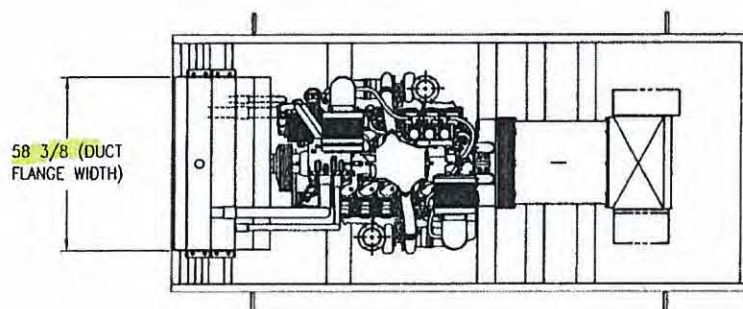


Drawing above for illustration purposes only, based on standard open power 480 volt generator. Lengths may vary with other voltages.
*Do Not Use for Installation Design

DISTRIBUTED BY:

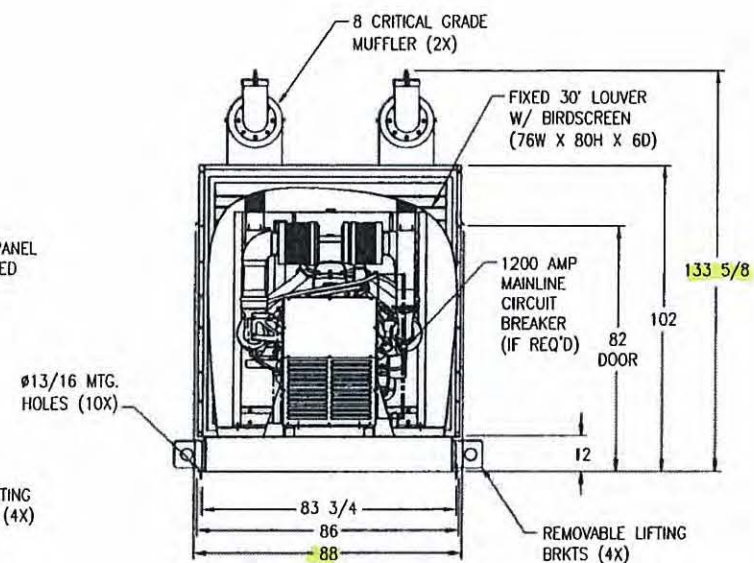
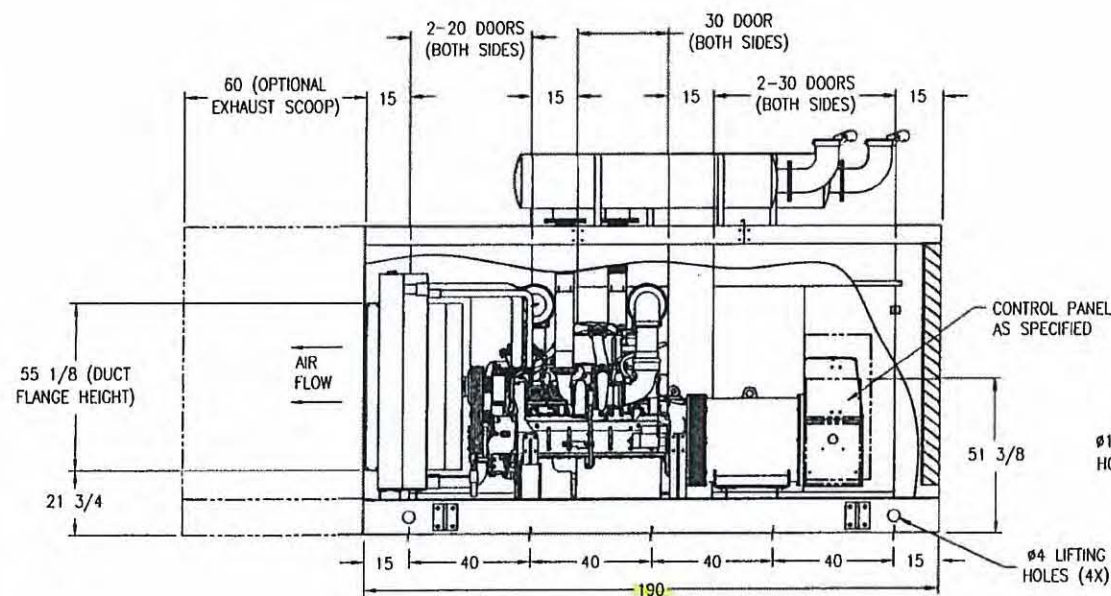
Materials and specifications subject to change without notice.
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100 Power Drive, Mankato, MN 56001
Phone: 800-325-5450
www.mtuddpowergeneration.com

DWG. #: 750RXC6DT2(R1238A36)WPF-MD

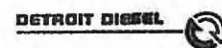


NOTES:

1. SUB-BASE FUEL TANK INFORMATION:
OVERALL HEIGHT OF UNIT WILL INCREASE WITH USE OF OPTIONAL SUB-BASE FUEL TANK. REFERENCE SECTION 5 FOR TANK HEIGHT AND GALLON CAPACITY INFORMATION.
2. FUEL SYSTEM CONNECTIONS:
(FOR UNITS WITHOUT SUB-BASE FUEL TANKS)
INLET: 3/4 NPT OUTLET: 1/4 NPT
3. HOUSING AND EXHAUST SYSTEMS ARE NOT SHOWN ON TOP VIEW



REVISION	DATE	REVISION DESCRIPTION	INITIALS
A	5-2-07	INITIAL RELEASE TO SALES AND ENGINEERING	JMW



DETROIT DIESEL

GEN-SET INFORMATION

ENGINE: R1238A36
GENERATOR: 573 RSL
RADIATOR: 80713 (DR-2580)
RADIATOR AMBIENT: 40C
DUCT FLANGE: 105-4313
CONTROL PANEL: AS SPECIFIED
BASE: 102-2959-A

ENCLOSURE: 103-294
BREAKER: 1200 AMP
TANK: NA
MUFFLER: 8 CRITICAL
TRAILER: NA
ISOLATORS: PADS

DIMENSIONAL LAYOUT

DRAWN TO SCALE
ALL DIMENSIONS ARE IN INCHES

DATE: 5-2-07
DRAWN BY: JMW

DWG. #: 750RXC6DT2(R1238A36)WPF-MD

Version : 2001.2

MARATHON ELECTRIC GENERATORS

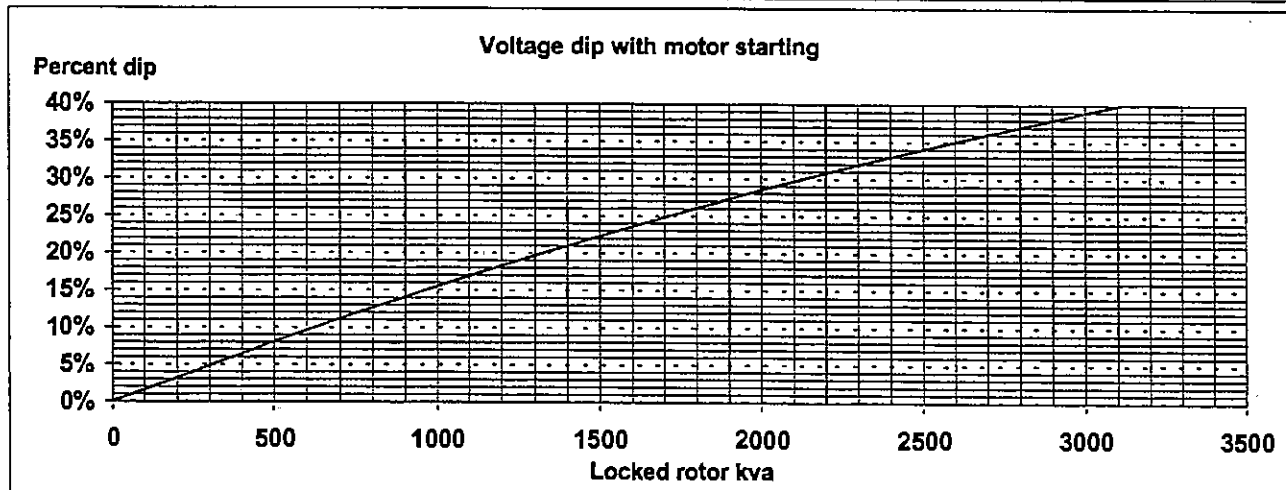
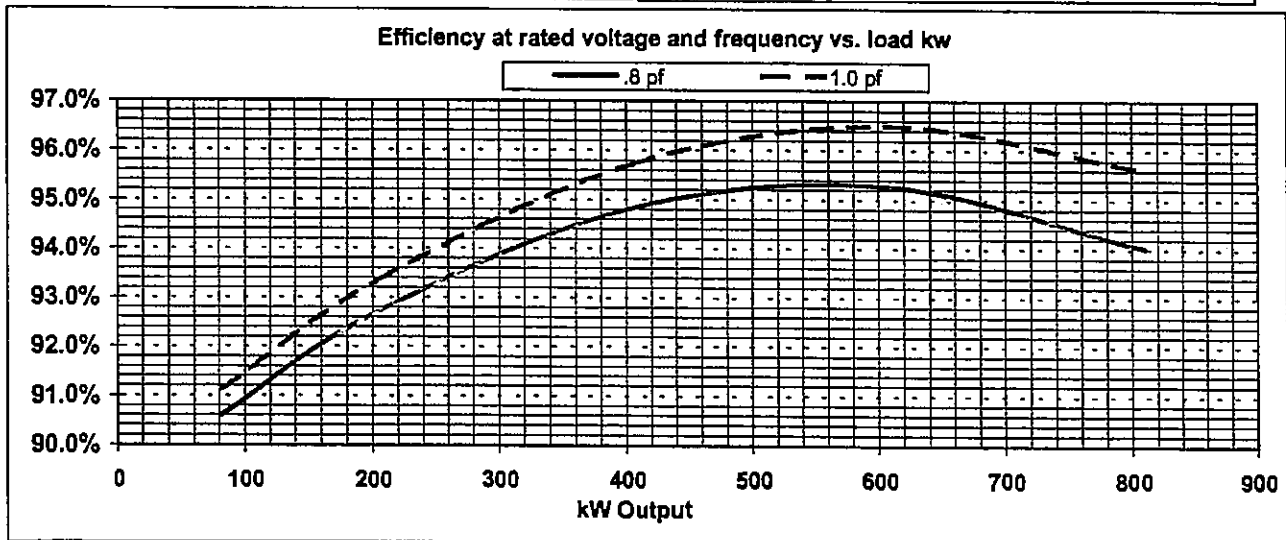
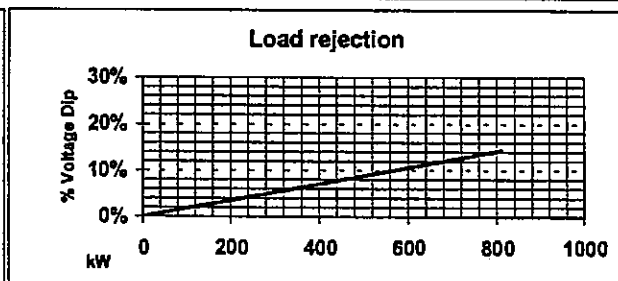
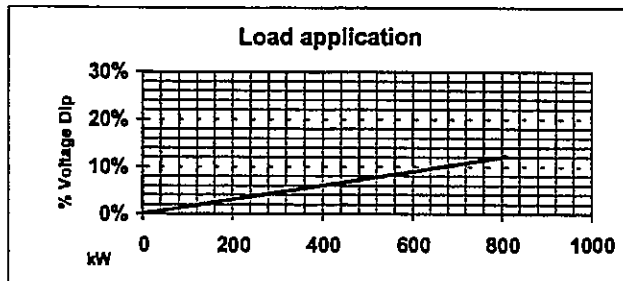
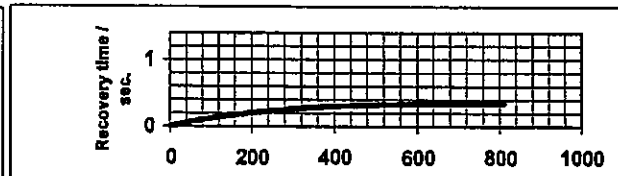
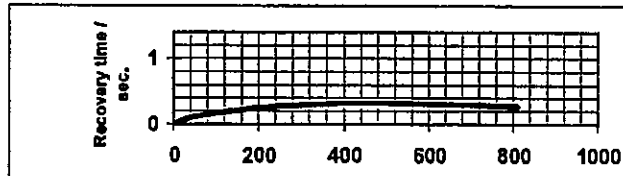
TYPICAL DYNAMIC CHARACTERISTICS

MODEL : 573RSL4035

BASE MODEL: 573RSL4035

Winding H-SG 570076

Submittal Data: 480 Volts*, 749.6 kW, 937 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase



Attachment 4

Ore ICP Assay Data

Ore ICP Assay Data and comparison against IDAPA 585 or 586 TAP ELs

Element/Compound	TAPs, non-carcinogenic (585)	TAPs, carcinogenic (586)	Discussion	Head Analysis (ppm)	Head Analysis (%)	EL (lb/hr)
aluminum,			Aluminum oxides and metal are not present in the mineralization based on field observation by geologist and petrographic analysis, but exists primarily as a silicate. A conservative value was selected from the Baseline Geochemical Report (2004).			
Al Metal and oxide	No					
Al Pyro Powders	No				5.04	^d 0.333
Al Soluble Salts	No				5.04	^d 0.133
antimony, compounds	Yes		Exists as a trace element. A conservative value was selected from the Baseline Geochemical Report (2004).	15	0.0015	^d 0.033
stibine	No		gas, not present			
arsenic,						
arsenic compounds		Yes	Arsenic exists in the ore primarily as Cobaltite (CoAsS). A conservative value was selected from the Idaho Cobalt Project Bulk Ore Mineral Testing Report (2001).	7100 (ore)	0.71 (ore)	^f 1.50E-06
arsine	No		gas, not present			
beryllium/compounds		Yes	Exists as a trace element. An average value was selected from the comprehensive assay data of all core samples.	0.2	0.00002	^a 2.80E-05
cadmium/compounds		Yes	Exists as a trace element. An average value was selected from the comprehensive assay data of all core samples.	0.05	0.000005	^a 3.70E-06
chromium, metal	unknown		Exists as a trace element. An average value was selected from the comprehensive assay data of all core samples. Little to no CrVI is anticipated	70	0.007	^a 0.033
Cr (II) compounds	unknown			70	0.007	^a 0.033
Cr (III) compounds	unknown			70	0.007	^a 0.033
cobalt,			Dominant mineral exists as cobaltite (CoAsS). Metal not present. A conservative value was selected from the Baseline Geochemical Report (2004).	14100		
Co Carbonyl	No				1.41	^d 0.007
Co hydrocarbonyl	No				1.41	^d 0.007
Co Metal Dust, Fume	No				1.41	^d 0.0033

copper,			Copper metal does not exist except in very isolated and rare samples. An average value was selected from The Recovery of Copper and Cobalt by Laboratory Flotation report, 2005.		0.7	b	
Cu Fume	No						0.13
Cu Dust and Mists	No						0.067
iron,							
iron oxide fume	No		Iron oxide is common in fractures of rock containing iron. An average value of Fe present was selected from The Recovery of Copper and Cobalt by Laboratory Flotation report, 2005 for approximation of iron oxide.		13.36	b	0.333
iron pentacarbonyl	No						
Iron soluble salts	No						
lead,	Criteria	Criteria	Trace compounds. Lead is considered an impurity in cobalt. The high purity ore deposits are extremely low in lead content. An average value was selected from the comprehensive assay data of all core samples.	0.9	0.00009	a	0.1344 (100 lbs/mo)
manganese,							
Mn dust and compounds	Yes		Trace compounds. An average value was selected from the comprehensive assay data of all core samples.	163	0.0163	a	0.333
Mn Fume	No						
mercury,							
Hg (Aryl and Inorganic)	Yes		Trace compounds. An average value was selected from the comprehensive assay data of all core samples.	0.3	0.00003	a	0.007
Hg (Alkyl compounds)	No		Organic forms not present in mineralization				0.001
Hg (vapors)	No		gas, not present				0.003
molybdenum,	Yes		Trace compounds	0.9	0.00009	a	0.333
nickel,		Yes		20	0.002	a	2.70E-05
Ni subsulfide		No	Naturally occurring mineral heazlewoodite is/is not present				
Ni refinery dust		No					
selenium,							
Se compounds	unknown		Rare and very low abundances present.* Only one sample indicated 0.6 ppm of Se present in the ore. Due to a lack of analytical data, an average value was selected from du Bray, 2005.	9	0.0009	a	0.013
silver,			Rare and very low abundances present.* An average value was selected from the comprehensive assay data of all core samples.	0.3	0.00003	a	
Ag Metal	No						0.007
Soluble compounds	No						0.001
tungsten,	Yes		Trace compounds. An average value was selected from the comprehensive assay data of all core samples.	2.6	0.00026	a	
Insoluble Compounds							0.333
Soluble Compounds							0.067

uranium, compounds	Yes		Trace compounds. An average value was selected from the comprehensive assay data of all core samples.	0.3	0.00003	*	0.013
zinc, metal	No		Trace compounds. An average value was selected from the comprehensive assay data of all core samples.	34	0.0034	*	0.667
Zn chloride fume	No						0.067
Zn oxide fume	No						0.333
Zn oxide dust	No						0.667
zirconium, compounds	unknown		Crustal abundance is approximately 130 ppm. Zircon is the most common ore form (ZrSiO ₄). Due to lack of analytical data a value was selected from Webelements.com.	130	0.0013	°	0.333

- Summary of inductively coupled plasma assay data collected by ALS Chemex Laboratories between 1997 and 2006 for the Ram deposit.
- SGS Lakefield Research Limited. 2005. The Recovery of Copper and Cobalt by Laboratory Flotation. Prepared for Formation Capital Corporation. 10943-001 Report. 1 May 5, 2005.
- Value derived from Webelements.com
- Telesto Solutions, Inc. (Telesto). 2004. Geochemical Baseline Report: Waste Rock, Ore, and Tailings, Rev II. Prepared for Formation Capital Corporation. September 2004.
- du Bray, E. (editor), Preliminary compilation of descriptive geoenvironmental mineral deposit models, Ch 17: Blackbird Co-Cu deposits, USDA, US Geological Survey, 1995. OFR-95-831.
- The Center for Advanced Mineral & Metallurgical Processing. 2001. Idaho Cobalt Project Bulk Ore Mineral Testing. Prepared for Formation Capital Corporation. August 2001.

Attachment 5

T-RACT Economic Analysis